WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a semiconductor substrate having a device region;

a transistor including a gate electrode formed in the device region with a gate insulation film formed therebetween; and

a metal layer formed over the gate electrode with an insulation film formed therebetween, formed of a metal material having the property of occluding hydrogen and having a peripheral part positioned outer of a region where the region for the gate electrode formed in and the device region overlap each other.

2. A semiconductor device comprising:

a semiconductor substrate having a first device region and a second device region;

a first transistor including a first gate electrode formed in the first device region with a first gate insulation film formed therebetween;

a second transistor forming a pair with the first transistor and including a second gate electrode formed in the second device region with a second gate insulation film formed therebetween;

a first metal layer formed over the first gate electrode with an insulation film formed therebetween, formed of a metal material having the property of occluding hydrogen and having a peripheral part

positioned outer of a region where the region for the first gate electrode formed in and the first device region overlap each other; and

a second metal layer formed over the second gate electrode with the insulation film formed therebetween, formed of metal material having the property of occluding hydrogen and having a peripheral part positioned outer of a region where the region for the second gate electrode formed in and the second device region overlap each other.

3. A semiconductor device according to claim 2, wherein

the first metal layer and the second metal layer are electrically connected to each other.

4. A semiconductor device according to claim 1, wherein

the potential of the metal layer is fixed to a prescribed potential.

5. A semiconductor device according to claim 2, wherein

the potential of the metal layer is fixed to a prescribed potential.

6. A semiconductor device according to claim 1, wherein

the potential of the metal layer is floating.

7. A semiconductor device according to claim 2,

wherein

the potential of the metal layer is floating.

8. A semiconductor device according to claim 1, wherein

the ratio of a gap between the semiconductor substrate and the metal layer to a gap between a region where the region for the gate electrode formed in and the device region overlap each other and the peripheral part of the metal layer is 0.32 or less than 0.32.

9. A semiconductor device according to claim 2, wherein

the ratio of a gap between the semiconductor substrate and the metal layer to a gap between a region where the region for the gate electrode formed in and the device region overlap each other and the peripheral part of the metal layer is 0.32 or less than 0.32.

10. A semiconductor device according to claim 1, wherein

the metal layer is formed of a layer film of a metal film formed of the metal material having the property of occluding hydrogen, and another metal film of a metal material which does not have the property of occluding hydrogen.

11. A semiconductor device according to claim 2, wherein

the metal layer is formed of a layer film of a metal

film formed of the metal material having the property of occluding hydrogen, and another metal film of a metal material which does not have the property of occluding hydrogen.

12. A semiconductor device according to claim 1, further comprising

an interconnection layer formed on the insulation film and formed of the same metal film forming the metal layer.

13. A semiconductor device according to claim 2, further comprising

an interconnection layer formed on the insulation film and formed of the same metal film forming the metal layer.

14. A semiconductor device according to claim 1, wherein

the metal material is titanium, magnesium, an alloy containing titanium or an alloy containing magnesium.

15. A semiconductor device according to claim 1, wherein

the transistor forms a part of a differential circuit or a part of current mirror circuit.

16. A method for fabricating a semiconductor device comprising the steps of:

defining a device region on a semiconductor substrate;

forming a gate electrode in the device region with a gate insulation film formed therebetween;

forming a metal film of a metal material having the property of occluding hydrogen over the gate electrode with an insulation film formed therebetween;

patterning the metal film to form over the gate electrode a metal layer formed of the metal film and having a peripheral part positioned outer of a region where the region for the gate electrode formed in and the device region overlap each other; and

thermally processing the semiconductor substrate with the metal layer formed on in an atmosphere containing hydrogen.

17. A method for fabricating a semiconductor device according to claim 16, wherein

in the step of thermally processing the semiconductor substrate in the atmosphere containing hydrogen, the metal layer homogeneously suppresses the hydrogen termination of the interface between the semiconductor substrate and the gate insulation film.

18. A method for fabricating a semiconductor device comprising the steps of:

defining a first device region and a second device region on a semiconductor substrate;

forming a first gate electrode in the first device region with a first gate insulation film formed

therebetween, and a second gate electrode in the second device region with a second gate insulation film formed therebetween;

forming a metal film of a metal material having the property of occluding hydrogen on the first gate electrode with an insulation film formed therebetween;

patterning the metal film to form over the first gate electrode a metal layer of the metal film and having a peripheral part positioned outer of a region where the region for the first gate electrode formed in and the first device region overlap each other; and

thermally processing the semiconductor substrate with the metal layer formed on in an atmosphere containing hydrogen,

in the step of thermally processing the semiconductor substrate in the atmosphere containing hydrogen, the metal layer homogeneously suppressing the hydrogen termination of the interface between the semiconductor substrate and the first gate insulation film, and terminating with hydrogen the interface between the semiconductor substrate and the second gate insulation film.

19. A method for fabricating a semiconductor device according to claim 16, wherein

in the step of forming the metal layer, the metal film is patterned to form an interconnection layer and

the metal layer both of the metal film.

20. A method for fabricating a semiconductor device according to claim 18, wherein

in the step of forming the metal layer, the metal film is patterned to form an interconnection layer and the metal layer both of the metal film.